ARCHITECTVRE

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PROFESSIONAL COMMENT.

THE fourth section of the resolutions adopted at the 41st annual convention of the American Institute of Architects relative to competitions, has now secured the backing of the courts. This section states that "the programme should be in the form of a contract relating to the award of the work and to other payments." In the past it has been very difficult to secure public recognition of this principle by people outside of the architectural profession, who have always had an idea that because builders and contractors present bids without pay that architects should do likewise. Messrs. Palmer & Hornbostel deserve the thanks of the profession in general for testing this matter in court, in a suit which they brought against the Central Board of Education of Pittsburg. This Board decided to build a new school house some time ago and appointed a building committee and a professional advisor to select an architect subject to the approval of the Board. A very careful and complete programme was issued by the Building Committee, of which the following provisions formed a part:

"COMPETITION.—To insure the impartial selection of the architect best qualified to design and execute the proposed building, the committee have established this competition.

PRIZE.—The prize of the competition will be the commission to design and supervise the construction of the proposed building.

AWARD.—This prize will be awarded to the competitor whose design is designated by the committee as "Premiated" as provided in sections 39-44 inclusive of the programme.

JUDGMENT.—The remaining designs will be examined by the advisor who will select that one which in his opinion gives promise of the best results when carefully studied and developed in all its parts and details, and will, in his report, recommend it to the committee for their choice as the "premiated design." In making this selection the advisor will hold the design to define the professional and artistic capacity of its author for dealing with this special problem, as it may be regarded from all points of view.

COMMITTEE DECISION.—The committee will then, after careful consideration of the aforesaid report and after examination of the designs with the advisor's assistance, take action by selecting that design which may in his opinion be best and will designate said design as "premiated"; will thereupon open the envelope containing the name of its author and will forthwith award him the prize of the competition by designating and appointing him the architect of the work described in section 64 of this programme; subject, however, to the approval of the Board.

REPORT TO BOARD.—The committee will thereupon report this action to the Board, requesting approval thereof and it is believed, inasmuch as the committee has been authorized by the Board to make selection of the architect through competition under professional advice, and has adopted the most approved method for producing the best results, that such approval will be granted.

APPROVAL.—Upon approval being given by the Board, the said architect shall become the appointed architect.

FURTHER SELECTION.—If, for any reason, however, the Board disapproves of the above committee-action, it is provided that the committee will then select from among the remaining designs that one which in its opinion is the best and will repeat the above procedure with respect to this design and its author.

FINAL SELECTION.—Should the Board disapprove of this second selection and appointment the committee will then proceed as above with each of the remaining designs, taken in the order of their merit as this is regarded by the committee, until the Board shall approve, as it will, the selection and appointment of one of the competing architects."

Upon the basis of the programme of which these sections

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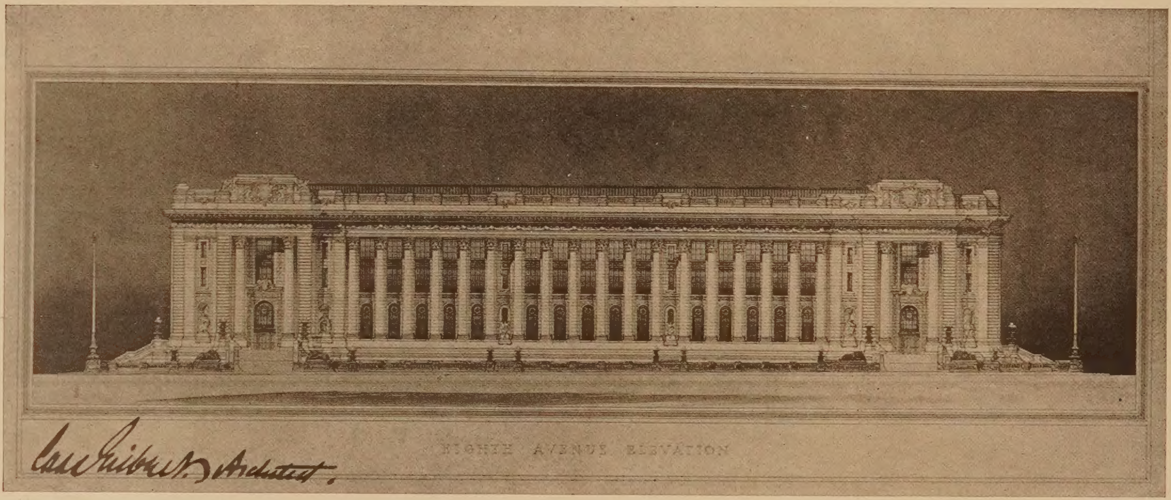

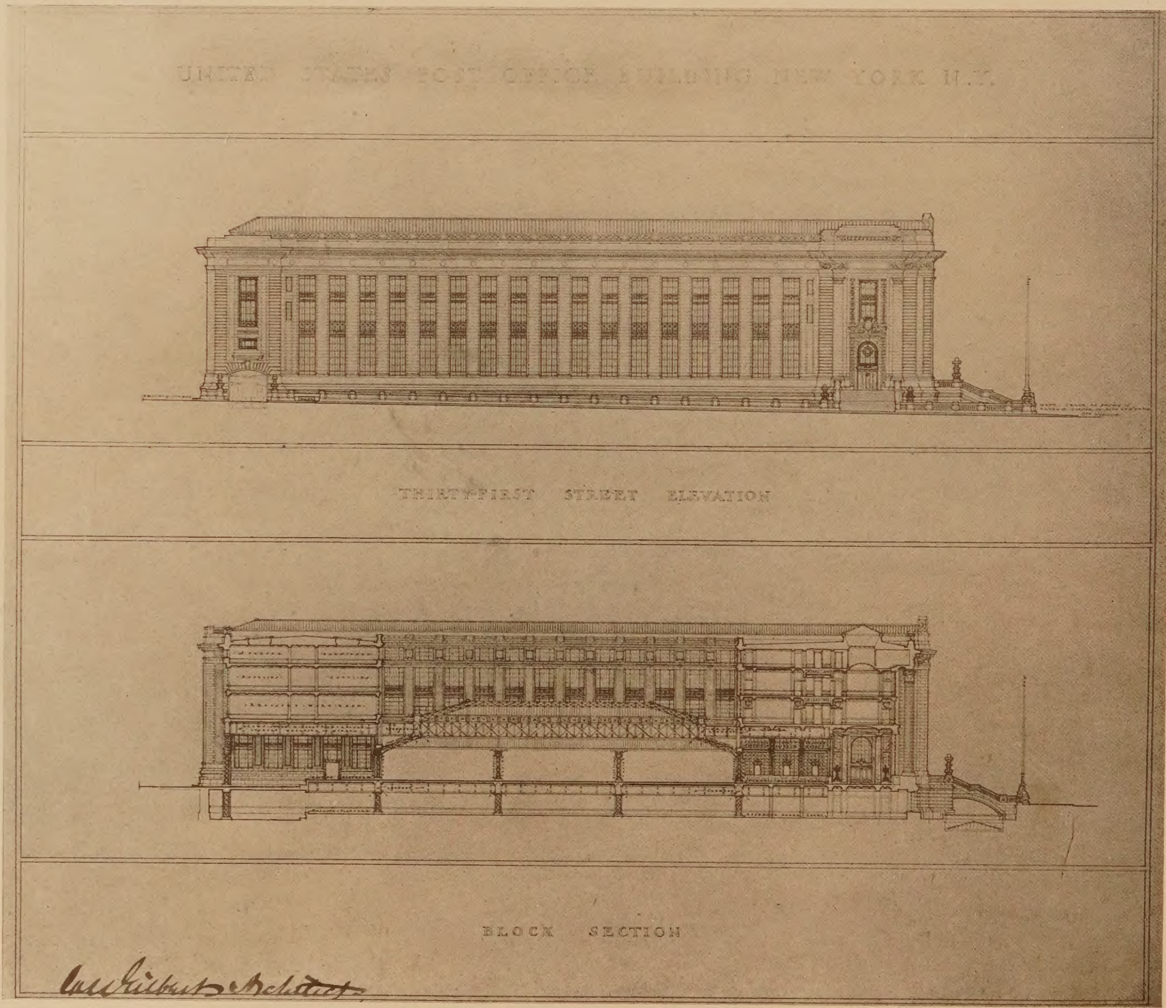
UNITED STATES POST OFFICE BUILDING NEW YORK N.Y.
THIRTY-FIRST STREET ELEVATION
BLOCK SECTION
Cass Gilbert, Architect.

COMPETITIVE DESIGN, U. S. POST OFFICE, NEW YORK — Cass Gilbert, Architect.

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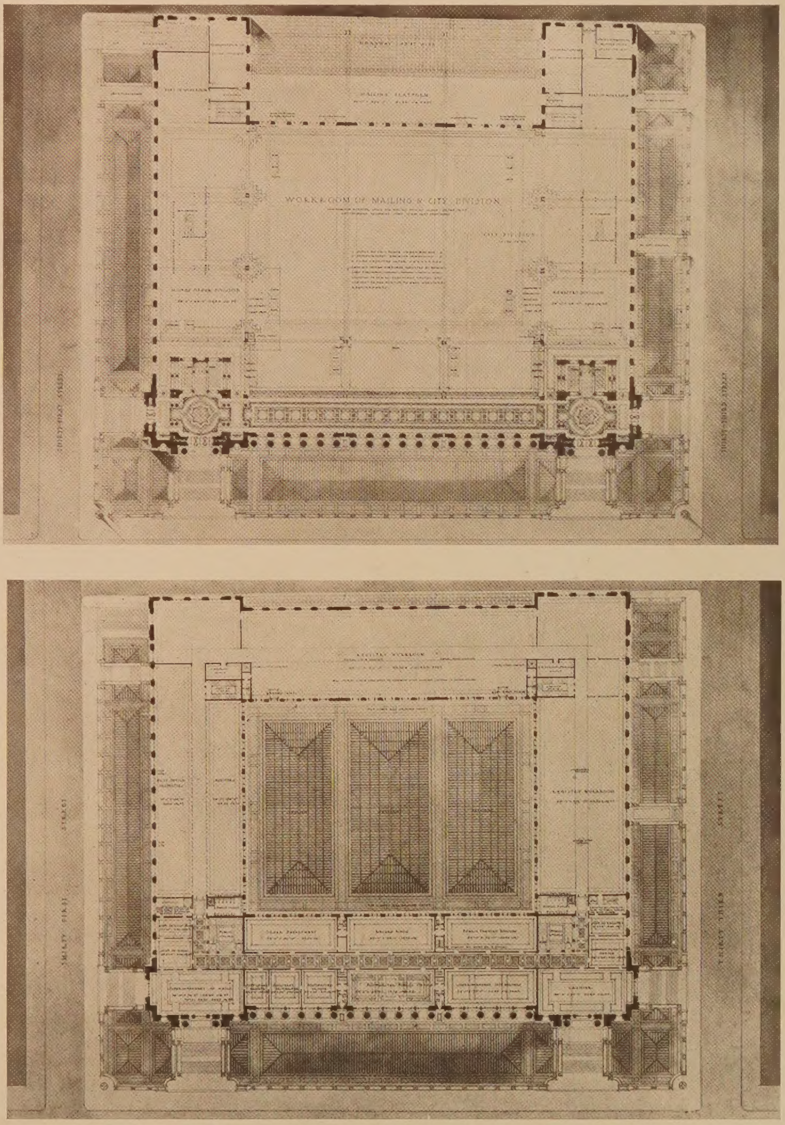
formed a part five architects in Pittsburg and the same number outside of the city were invited to compete, and all but one of the architects selected accepted the invitation and announced their intention to enter the competition. The committee selected the plan of Rutan & Russell and the central Board was asked to approve the selection in December, 1906. The report, however, was rejected by the Board and a motion to reconsider the same was made and laid on the table. Messrs. Palmer & Hornbostel contending that the action of the Board was a violation of the contract with the nine competitors an injunction was obtained restraining the Board from proceeding to award the commission for the construction of the high school and restraining the Board from selecting an architect outside of the nine who were originally invited to enter the competition. In granting the injunction the court took the stand that an absolute contract existed between the Central Board and competing architects and this ruling has now been confirmed by a decision of the Supreme Court of Pennsylvania.



PLANS, U. S. POST OFFICE, NEW YORK. Cass Gilbert, Architect.

UNCLE Samuel has been quite busy lately giving out jobs, and the commission for the new Post Office in New York has been awarded to McKim, Mead & White, a circumstance which should be a source of congratulation to the city, as they are the logical men for this work on account of their connection with the new Pennsylvania Terminal. The designs of Frank E. Perkins, of New York, have also been selected for the Capitol of Porto Rico at San Juan. Nearly four hundred plans were submitted and were considered by a number of Colonial officials. The building is to cost $300,000 and is to be built on the summit of the highest hill in the neighborhood overlooking the bay. Provision is made in one story for the Executive Council, the House of Delegates, and the Supreme Court with their offices and the rooms are located around a partially covered patio or court. Reinforced concrete is to be used.

THE complexion of the Building Code Revision Commission as recently altered by the Board of Aldermen makes it improbable that the administrative features contained in the report of the first commission will be found in the final report. Experts most familiar with the subject claim that the first report provided what seemed to be adequate remedies for every species of abuse in the Administration of the Bureau of Buildings which was brought to light in the recent investigation of the Borough President's office, but having seen the make-up of the subcommittee charged with the special consideration of the administrative features of the new code we fear that we will look in vain for these same provisions when the report is handed in next fall. There is, however, another avenue open for reform, now that the Governor has appointed the Charter Revision Commission. It will be remembered that this commission had only scratched the surface when it was compelled to hand in its report on the first of last year. All of the same men have been reappointed and in addition Mr. George McAneny, the president of the City Club, and several other gentlemen whose reputation as reformers should insure good results.

As ARCHITECTURE has previously pointed out, many of the abuses in the administration of the Bureau of Buildings of the City of New York are directly traceable to the provisions of the Charter and we trust that the local chapters of the Institute of Architects will get busy with this commission before it is too late. The discretionary power given to the

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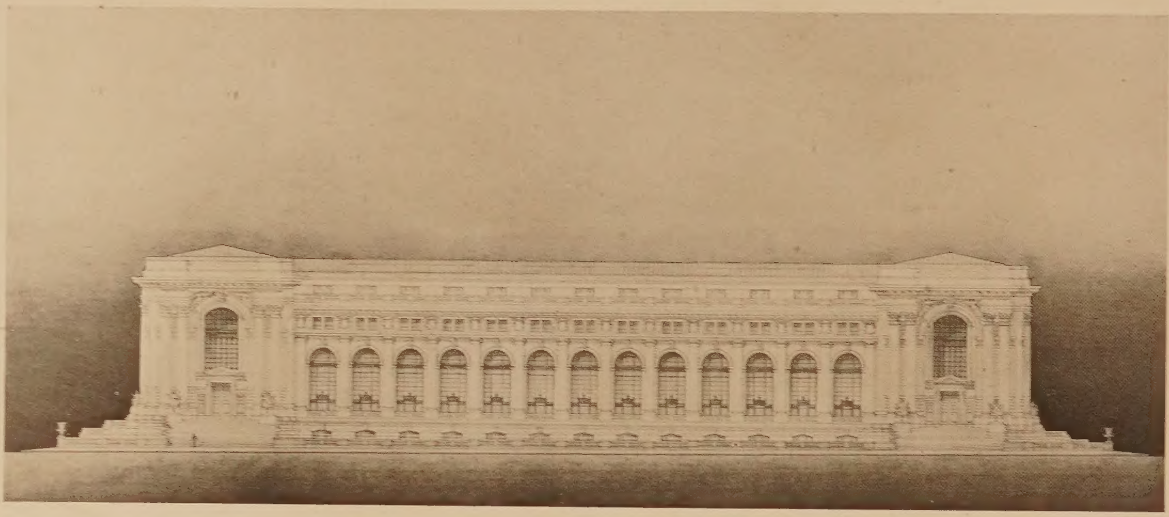

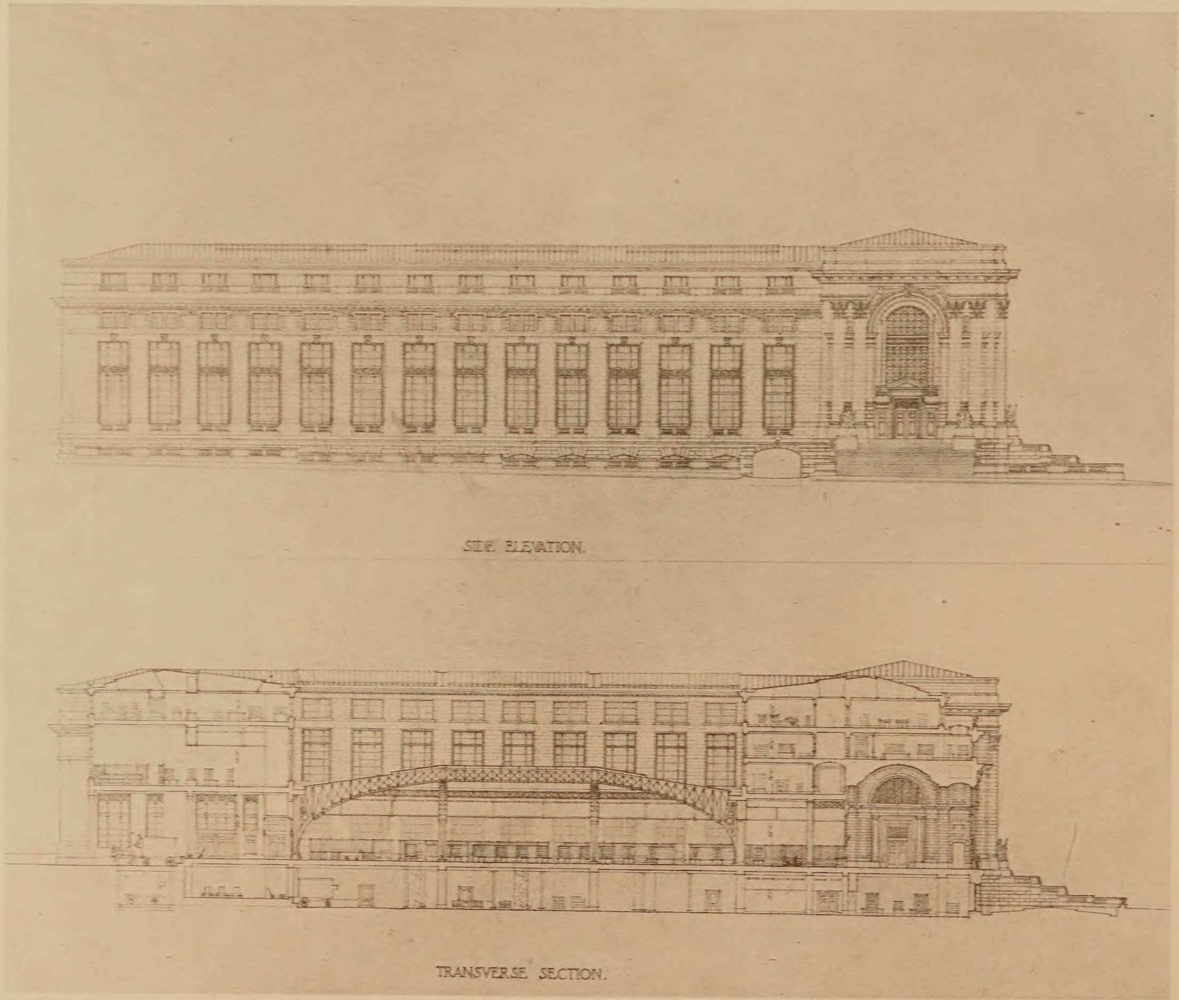
SIDE ELEVATION.
TRANSVERSE SECTION.

COMPETITIVE DESIGN, U. S. POST OFFICE, NEW YORK. Carrere & Hastings, Architects.

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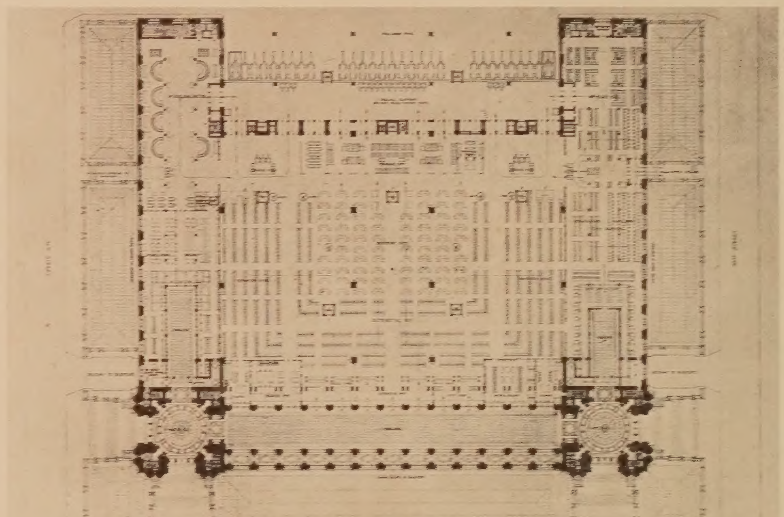
Superintendent of Buildings is a Charter provision not a Code one. We would not take this discretion away if we could, but we do not believe it absolutely essential to the protection of the architectural profession, that provisions should be made compelling the use of this extraordinary but necessary power in the lime light. The recommendation made by the previous Building Code Commission was due to the effect that all discretionary decisions made by the superintendent should become matters of separate record and should be so filed that they could be cited in future cases, and we strongly recommend to the architectural associations in New York that efforts be made to secure the adoption of this principle in the Charter as well as in the Code.



PLANS, U. S. POST OFFICE, NEW YORK. Carrere & Hastings, Architects.

THE DECORATIVE IN ENGINEERING WORKS.

THE everlasting problem of the decorative as against the purely utilitarian constantly turns up in the design of all sorts of engineering structures, from bridges and reservoirs to engine rooms and chimneys, says *The Engineering Record.* There are two distinct classes of architects and engineers ceaselessly opposed to each other in such matters. If they were in agreement on the really important things, minor differences of opinion could be passed over easily enough, but they seldom are of the opinion as to what is really important. One, for example, will lay out a pumping station on pretty nearly the lines of a Gothic chapel, suppress all useful window spaces and take his chances on the convenience of the plant in operation. The other will make the structure about as decorative as a soap factory, and subordinate everything to the exigencies of equipment. It sometimes seems as if such differences were irreconcilable and one really had an entity composed wholly of two unsupported ends. Now, from the point of view of the ordinary man, both extremes involve gross inconsistencies. Gothic chapels as such do not have smoke-stacks, nor are soap factories customarily public buildings placed in conspicuous positions. As with the exterior, so with the interior. One man will fill it up with tiles and lacquered brass and the other with cement and cast iron, and so it goes. The practical value of the decorative is the real moot point, and that is as old as architecture and engineering.

One thing often lost sight of is that many elements now chiefly decorative were once purposeful, and that in losing their purpose they have lost their chief artistic interest, so that their use is now merely stupidly imitative. It is the common fault of the unpractical tacitly to assume artistic canons that are two or three hundred years out of date, so far as the reasons for their origin are concerned. Methods and materials for structures have changed very rapidly during the last century and the purposeful and appropriate, which is really the artistic, has changed with them. The pointed arch may or may not be beautiful in itself, but it certainly has no structural appropriateness in a modern steel building. Engineering structures of all kinds must first of all be completely adapted to their purposes, which are primarily utilitarian. To take the pumping station as an example, its first duty is to pump water with the greatest possible reliability and economy. All the working parts should therefore be arranged with these points in view, providing for all the contingencies of practical operation. Then and not until then is one justified in going after the decorative. The building is merely the outer casing of the machine from this standpoint and the sole qualification is that it must in no wise lessen the

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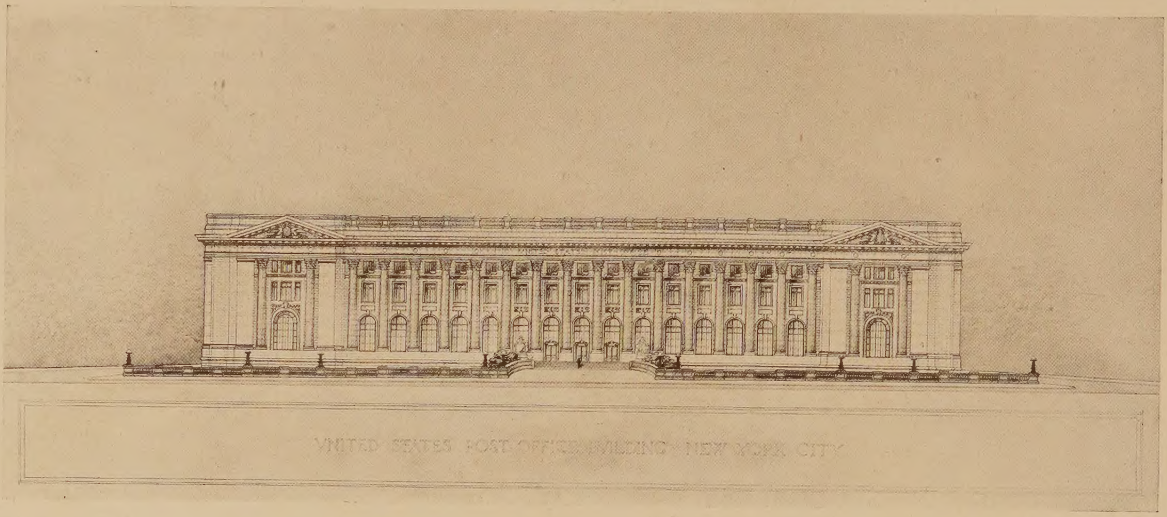

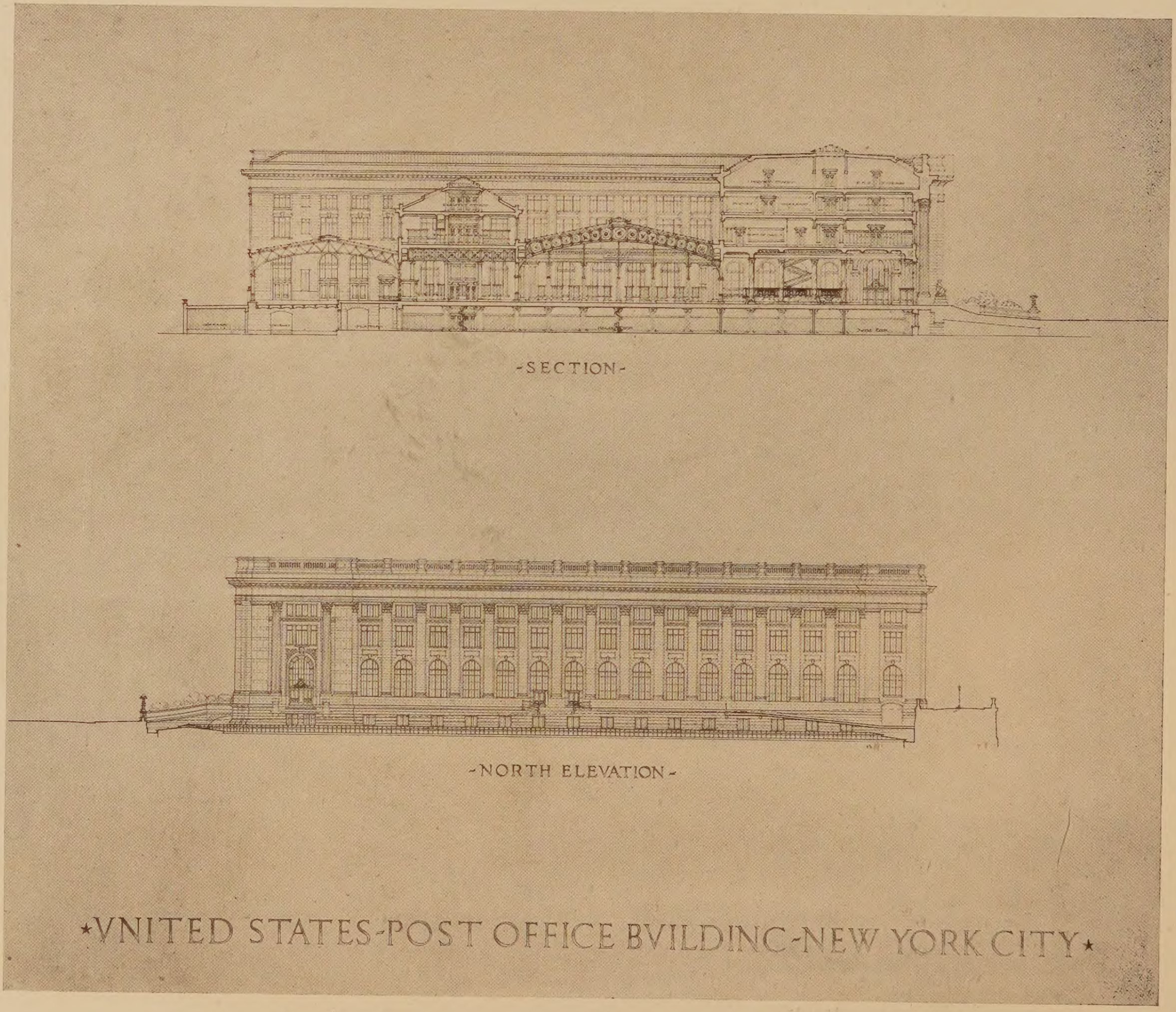

COMPETITIVE DESIGN, U. S. POST OFFICE, NEW YORK

Kenneth M. Murchison, Jr., Architect.

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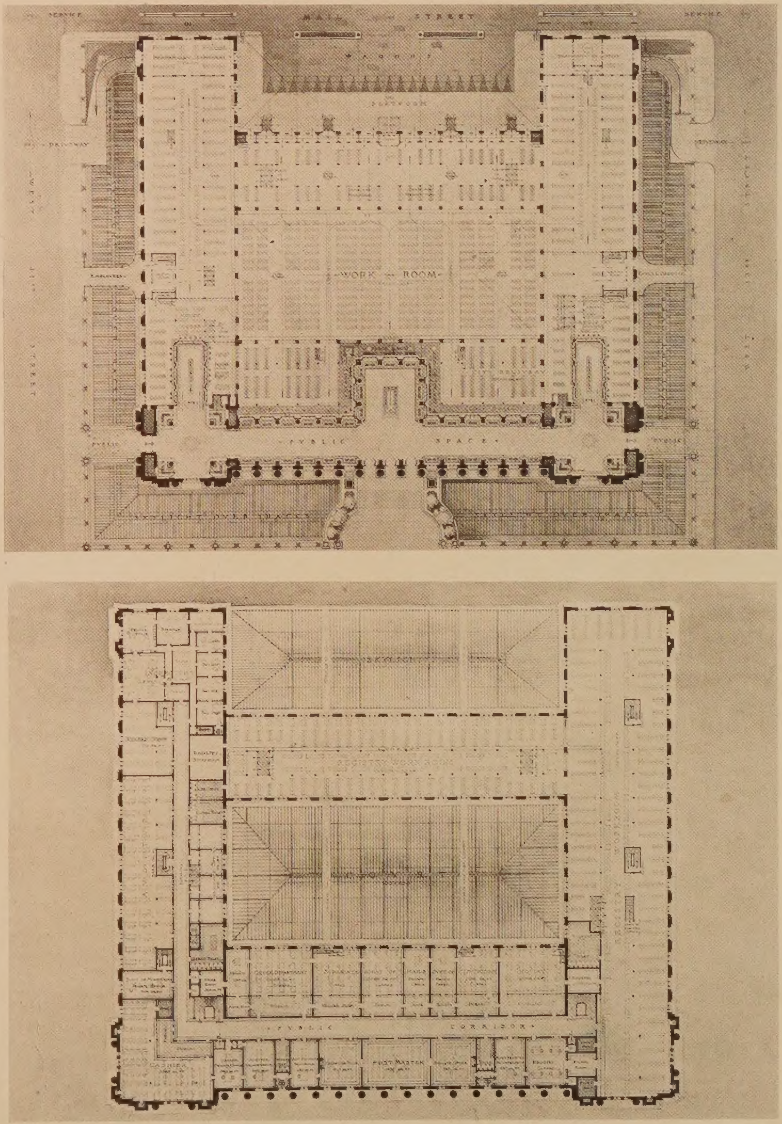
efficiency of the working parts. From the civic standpoint the externals must be harmonious with their environment and with this in view such elaboration is justified as the judgment of the civic authorities may agree to. Likewise, as to the interior, there is no objection to elaborate finish that does not interfere with operative features. The same general principles hold for works of any sort built by private enterprise. The thing always to be remembered is that such things should begin from the utilitarian end, and that unless they are suitable from this standpoint decorative features give them no claim to consideration whatever.



PLANS, U. S. POST OFFICE, NEW YORK. Kenneth M. Murchison, Jr., Architect.

A case that comes to mind is that of two libraries in large cities. One of them is conspicuously good in architecture and decoration, but the distance from the delivery room to the nearest part of the stack is greater than from the delivery room to the very farthest corner of the stack in the other, much plainer building. The first as a building is admirable, but as a library building it is inefficiently designed. Our American engineering structures vary commonly in going to one extreme or the other, and it would be a capital thing if architects and constructors could study some of the recent European designs for power plants of various sorts. It has been pretty effectively demonstrated abroad that even a smokestack need not be ugly and that buildings for the most grimly utilitarian purposes may be made altogether inoffensive and even decorative without considerable increase of cost. So as to the interior fittings, there is a tendency toward overdoing things on the one hand, or toward carelessness on the other. Some engineers delight in expensive finish, as did the old time locomotive constructors. They build very striking but needlessly expensive plants while others save a comparatively small amount at a great sacrifice of appearances. The fundamentals inside a plant are good light and cleanliness and the fittings should be planned with respect to these points. The strongest reason for some elaboration is its usefulness in enforcing cleanliness, and some expense here is really justified on utilitarian grounds alone. The idea of a judicious balance between cost and outer appearances is one that deserves study. The utilitarian purpose on various engineering works must be kept to the front, however, and the architect should be called upon not to design a building into which the working plant may be put, but to house the latter, after it is designed, in a dignified and appropriate manner, and experience has certainly shown that this can be accomplished. After all, there is much to be said for the Socratic view that beauty involves complete adaptability to use.

CRAFTSMANSHIP.

THERE is a clause commonly introduced at the commencement of specifications to the effect that "all work shall be executed in a thoroughly sound and workmanlike manner." In spite of the differences of interpretation of this by the careful architect and the builder who is desirous of making undue profit, there is yet a fairly well recognized understanding of its meaning. The term "workmanlike" implies that which is thoroughly good and honest of its class, the "workman" referred to being something very different indeed from the "working-man" whose endeavor is to obtain a maximum wage for a mimimum of labor. Fortunately, there are still plenty of honest workmen left, to be found generally in the shops of the larger contractors, who sufficiently recognize the value of their services to give them steady and regular employment, year in, year out, whether they are busy or whether they are slack, and who are retained when men of the "working" class are set adrift. They really

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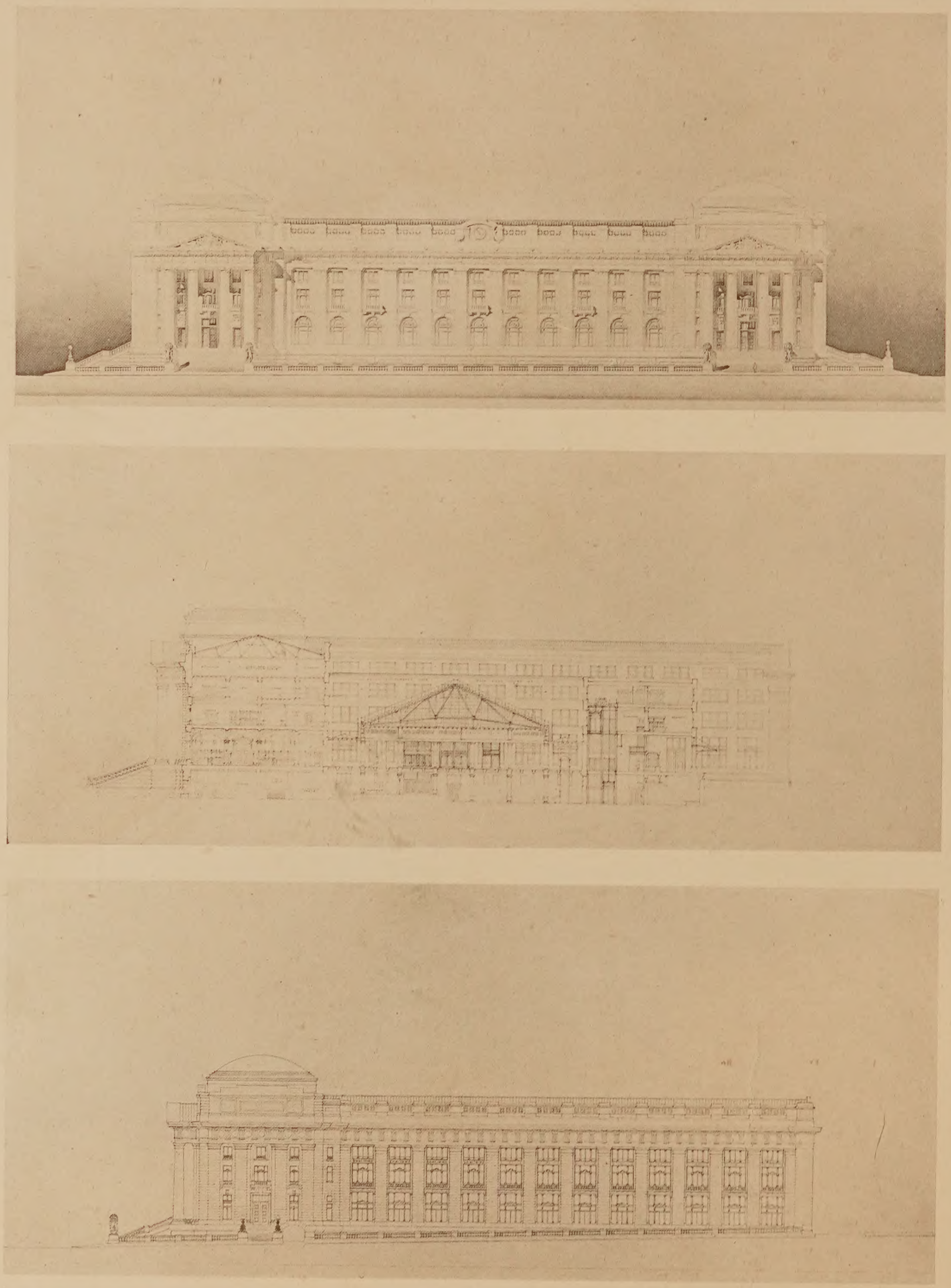

COMPETITIVE DESIGN, U. S. POST OFFICE, NEW YORK. Geo. B. Post & Sons, Architects.

(Continued from page 75)

understand what is meant by honest labor, doing their best with skill and intelligence, producing joinery which is exactly true, brickwork which will bond, and masonry which is accurately bedded. Such a workman is much less appreciated than he deserves to be. He is generally an unassuming man, who honestly performs the task set before him, and boasts but little. We have come of late years to call such men "artisans," or "craftsmen," rather than workmen; but it is doubtful whether the old term is not the best. It was thought when the system of apprenticeship died out that the race might become extinct. The fear was also expressed that the Trade Unions would deal its death-blow by fixing a regular scale of wages which young and old, incompetent and competent, alike could claim. Fortunately, neither prediction has come true. The technical schools and polytechnics which have sprung up throughout the country have done something to replace apprenticeship. They are adding intellectual knowledge and a wide grasp of many matters to the narrow outlook and precise workmanship of the craftsmen of the past, while the Trade Unions have recognized that the unskilled are a weakness rather than a strength, and seen that it is to the interest of all that members should be thoroughly conversant with their craft. Those who believe, as most of us do, in a national character, ought to have foreseen this from the start, for whatever mistakes we may make as a body, we are sure to return in the end to a sound and sane view of things. It also undoubtedly assists in the production of a good craftsman for the individual to know that the more skilled he becomes, the more surely is he likely to have steady and well-paid employment.

Taking all considerations into account, it is obvious that the preservation of a tradition of sound craftsmanship is of the greatest importance. This is not difficult in the large shops, where the actual contracts undertaken are those for high-class work; but if it is to be maintained in the smaller shops and country districts, a very great deal of care needs to be exercised. The principal thing necessary is to secure adequate supervision of the younger men by those who are thoroughly experienced, and thus have no other idea than that of doing their best, and of obtaining the best also from all who are under their charge. In his own interest the contractor naturally selects his foremen from amongst his most reliable men, and in this way a right tradition may well be expected to be handed on from generation to generation. But, unfortunately, there is a tendency at the present time for workmen to change their masters much too rapidly, while masters themselves cannot look for the same continuous supply of work to do of a good character that was possible, say, even ten years ago. One result is that often when a new contract is undertaken a master builder finds himself in the position of having no old servant whom he can rely upon to act as foreman, and he has to do the best he can with such material as may present itself. If he is thoroughly expert in his business he will soon discover whether he has got the right man or not, while if he be a mere capitalist who is taking to building as a means of livelihood without fully understanding all the many ramifications of building work, the sooner he gives up the better.

This brings us to another side of the question, namely, the necessity that the master builder himself should be what is termed a "practical" man; or, in other words, a craftsman of no mean ability, capable of handling the tools in, at least, one trade, and of understanding what is meant by good work

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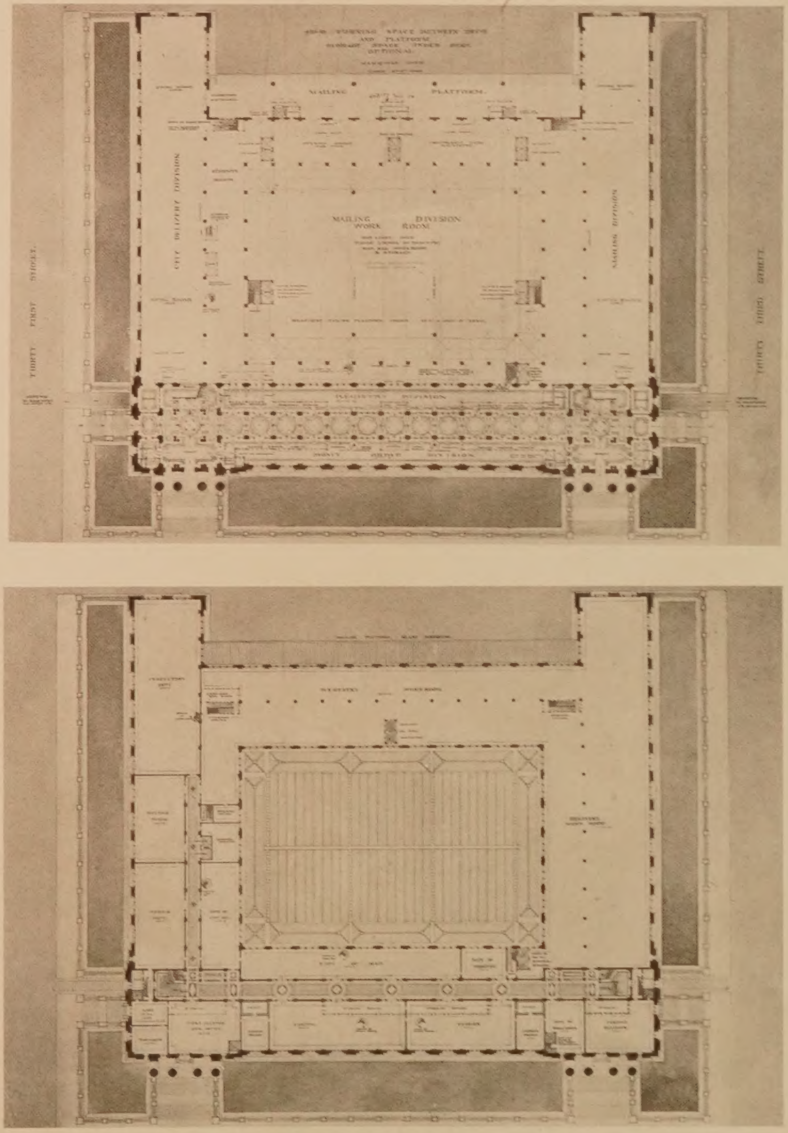

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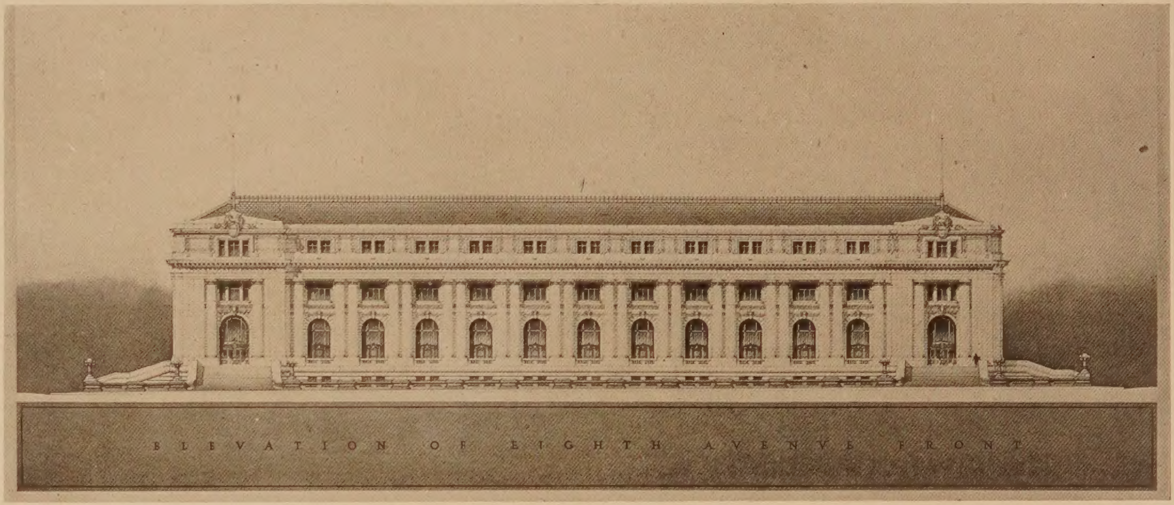
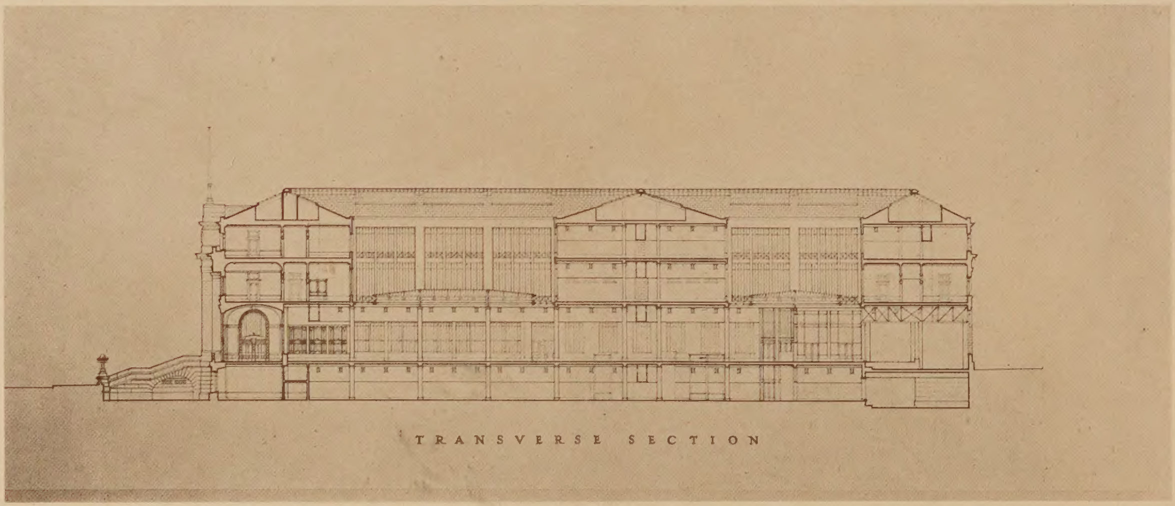
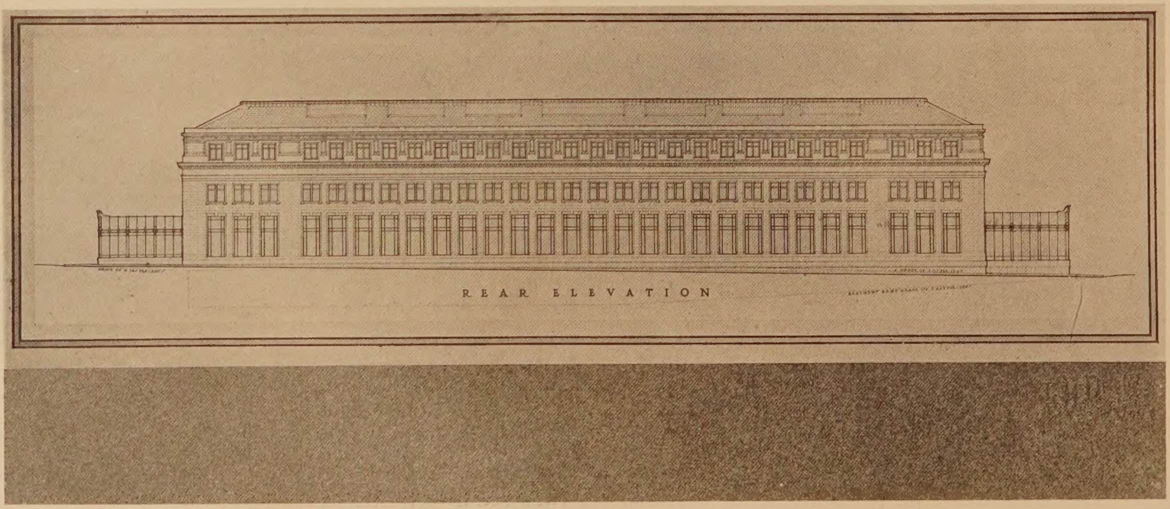


ELEVATION OF EIGHTH AVENUE FRONT



TRANSVERSE SECTION



REAR ELEVATION

COMPETITIVE DESIGN, U. S. POST OFFICE, NEW YORK

H. Van Buren Magonigle, Architect.

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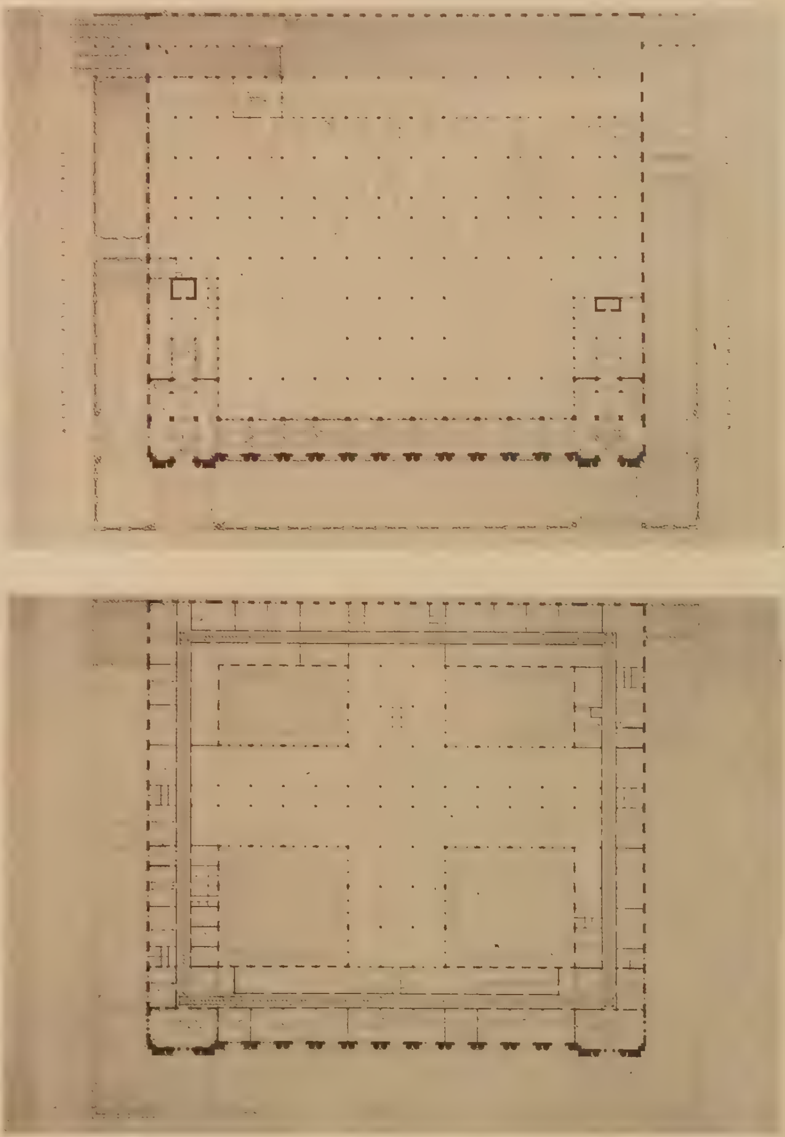
in all the others. This may be an old-fashioned way of looking at things, yet notwithstanding all the excellent teaching in modern technical schools, it remains a fact that the builder who has learnt his business on actual practical work is still the superior of the man who has had school training only. For one thing, and a very important thing it is, the man who has spent several years in the shops amongst the workmen will have learned their point of view, and if he has gradually been given greater and greater responsibility, acting first as foreman on some small job, and afterwards on larger work, he will have acquired the power of handling men.



PLANS, U. S. POST OFFICE, NEW YORK H. Van Buren Magonigle, Architect.

If it be necessary for a builder to be himself a craftsman in order to obtain good workmanship from those who are under him, much more, some will say, is it essential for an architect, who is the final "Court of Appeal" in regard to building matters. If he insists that things shall be good, good they will be; but if he has not sufficient knowledge to discriminate between good and indifferent, there is a very fair chance of the indifferent being palmed off upon him. Thus there still remains a school amongst us whose members say that an architect ought to commence his training at the bench, and this in spite of the modern tendency to place draughtsmanship first and foremost and to prefer a college course to apprenticeship in an architect's office. It must be admitted, however, that arguments can be put forward in support of both points of view. It is obvious that an architect must be an architect above all else; that is, he must be capable of designing satisfactory buildings upon a constructural basis. Such a basis is obviously best supplied by actual experience of building work; but whether this should come first is a moot point which is open to discussion. Many contend that other things are of greater importance, such as can be taught in schools, yet the power of constructing soundly is of enormous value to every architect, and once acquired, becomes a habit which is never abandoned in after life. Probably the ideal architect is the man who has commenced at the bottom, but has always kept in his mind's eye a view of the topmost pinnacle, which has been his endeavor to reach eventually. But if the master builder cannot afford the time in which to acquire a practical knowledge of every trade, the architect has even less to spare for it. Possibly so much of the actual handling of the tools as can be done in the carpenter's shop at school will suffice, in many cases, to give an appreciation of what workmanship means in all trades, particularly if it be supplemented, after an architectural college course, by a year or two spent as junior clerk of works on some great building. The majority neglect even so much, till we have architects whose design is not controlled by knowledge of craft, and who have to trust those who are under them to see that work is properly executed, that materials are sound, and that workmanship is workmanlike.

THE RELATION OF ILLUMINATING ENGINEERING TO ARCHITECTURE, FROM THE ENGINEER'S STANDPOINT.

By E. L. Elliott.

(Continued from April number)

There is one difference, however, between these two branches of engineering as connected with building; the

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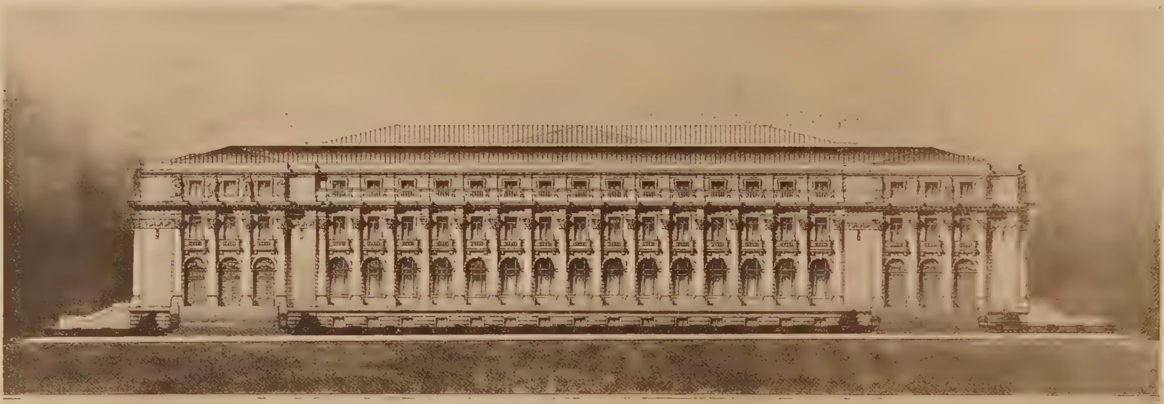
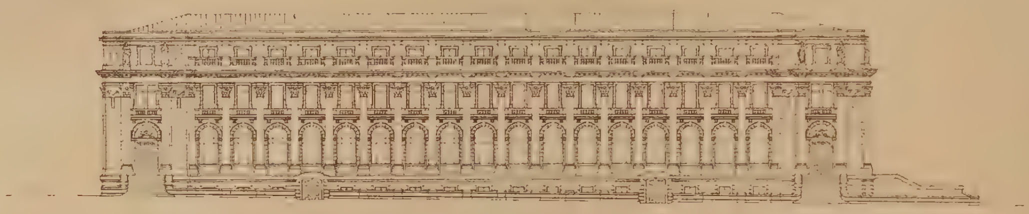
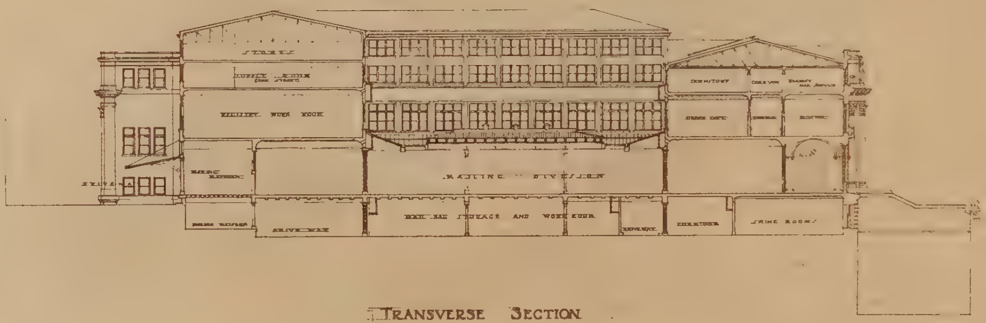


EIGHTH — AVENUE — ELEVATION.

VNITED STATES POST OFFICE BVILDING, NEW YORK, N. Y.



THIRTY FIRST STREET ELEVATION.



TRANSVERSE SECTION

SCALE 1/16"-1'-0"

VNITED STATES POST OFFICE BVILDING

NEW YORK N. Y.

COMPETITIVE DESIGN, U. S. POST OFFICE, NEW YORK. Heins & La Farge, Architects.

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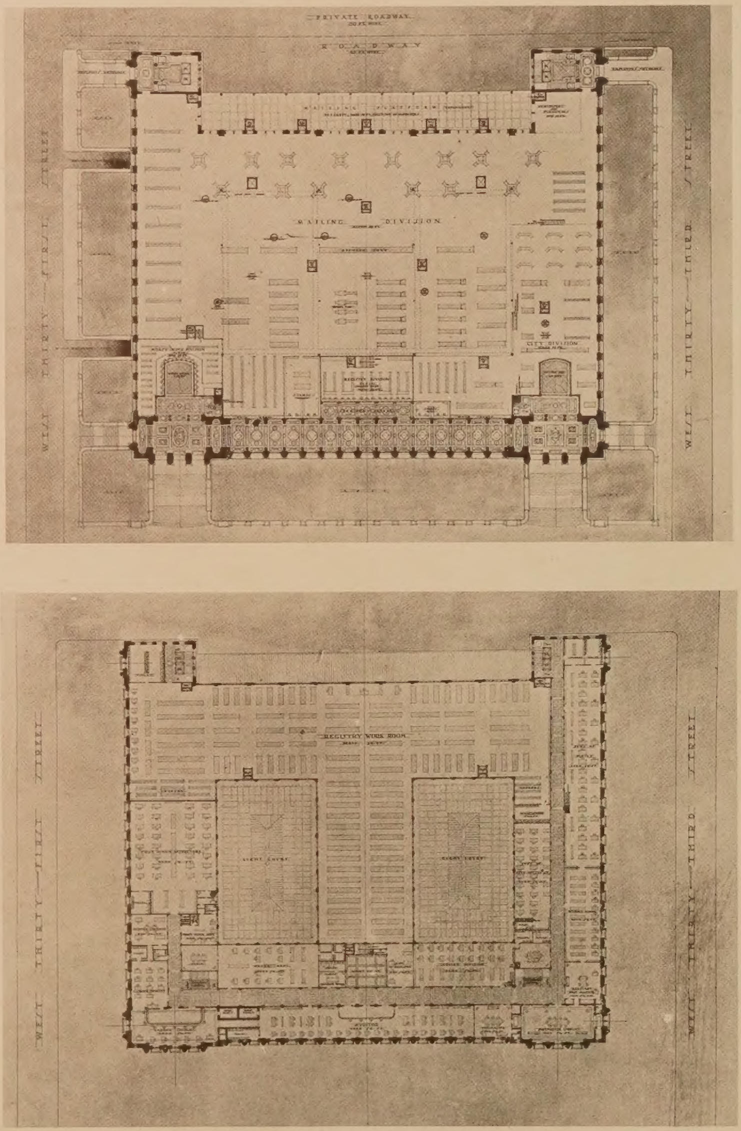
skeleton of a building, which is the work of the structural engineer, is hidden when the work is completed; but the apparatus especially connected with the illumination is not only in plain view, but so conspicuously in sight as to form one of the necessary elements in the artistic whole. This phase of the problem of illumination, therefore, falls within the legitimate province of the architect. There is clearly but one solution of this apparent clash of authority, and that is co-operation between the architect and the engineer. The engineer demands a certain physical result; the architect demands certain structural features or conditions in order to produce the greatest harmony of result which it is his business to secure; how shall these two demands be reconciled? Evidently there will be a large number of cases in which no reconciliation will be necessary; all that is required will be such a versatility on the part of the engineer that he can design the physical part of the installation so that it will produce both the physical and artistic results demanded. It is conceivable, however, that cases may arise in which the artistic conditions required by the architect can be secured only at a greater or less sacrifice in economy: the decision then very clearly rests with the client. The possibility also still remains of the architect specifying certain conditions which he considers essential from the artistic standpoint, but which the engineer deems not only uneconomical, but positively detrimental in point of the resulting illumination: who then shall decide? In this as in all other cases the client is the court of last resort, on the generally accepted theory that he who buys an article has a right to dictate as to its character. If a man chooses to work by light which is dangerous to his eyes, or is ill-suited to the purpose for which the illumination is required, for the sake of the supposed artistic effect, he can hardly be denied his right to such a course, however foolish it may seem to the engineer. Such cases, however, are hardly likely to occur under proper conditions. There are few persons who would willingly subject their eyes to a dangerous strain, or handicap the efforts of themselves or their employes by bad light after having been duly warned.



PLANS, U. S. POST OFFICE, NEW YORK. Heins & La Farge, Architects.

Since the larger proportion of buildings at the present time are predominantly utilitarian, there is extremely little opportunity for any disagreement between the illuminating engineer and the architect. In all this large majority of buildings the general artistic talent of the illumination engineer should be sufficient to avoid such breaches of taste as would be objectionable. This class of building includes factories of every description, office buildings, school houses, and the larger portions of hotels and public buildings. In the case of a large number of residences the illuminating engineer should also be competent to lay out, or pass upon every feature of the installation. There remain then only the more pretentious class of dwelling houses, churches, theatres, and to a partial extent libraries and public buildings, in which co-operation of engineer and architect is essential. In these cases the artistic features of the lighting installation are of such importance as properly and justly to demand the attention of the architect. However, while the architect is properly the arbiter in such cases as to the artistic side of the problem, the services of the illuminating engineer are no less valuable than in the other cases. Let it be clearly understood that art as applied to architecture does not exist for its own sake, but it is only directed to the embellishment

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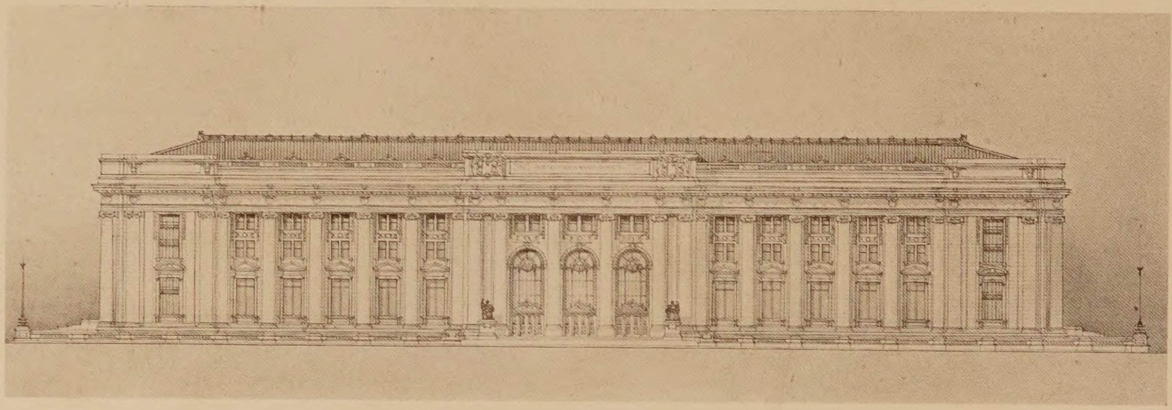
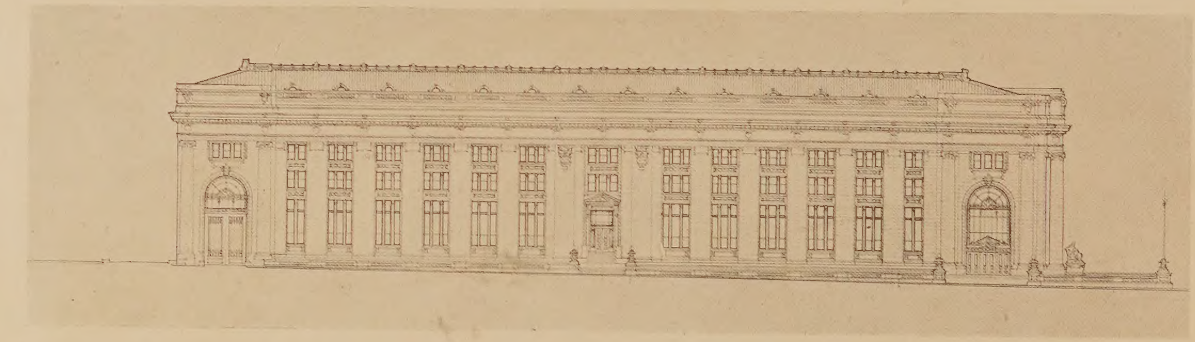
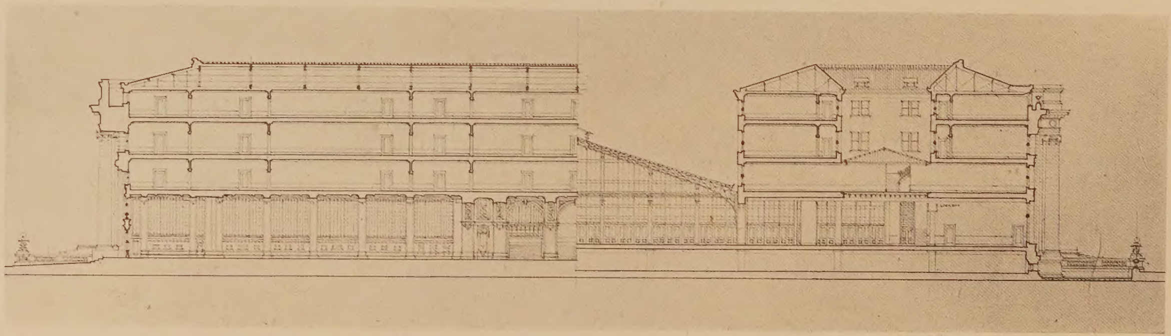




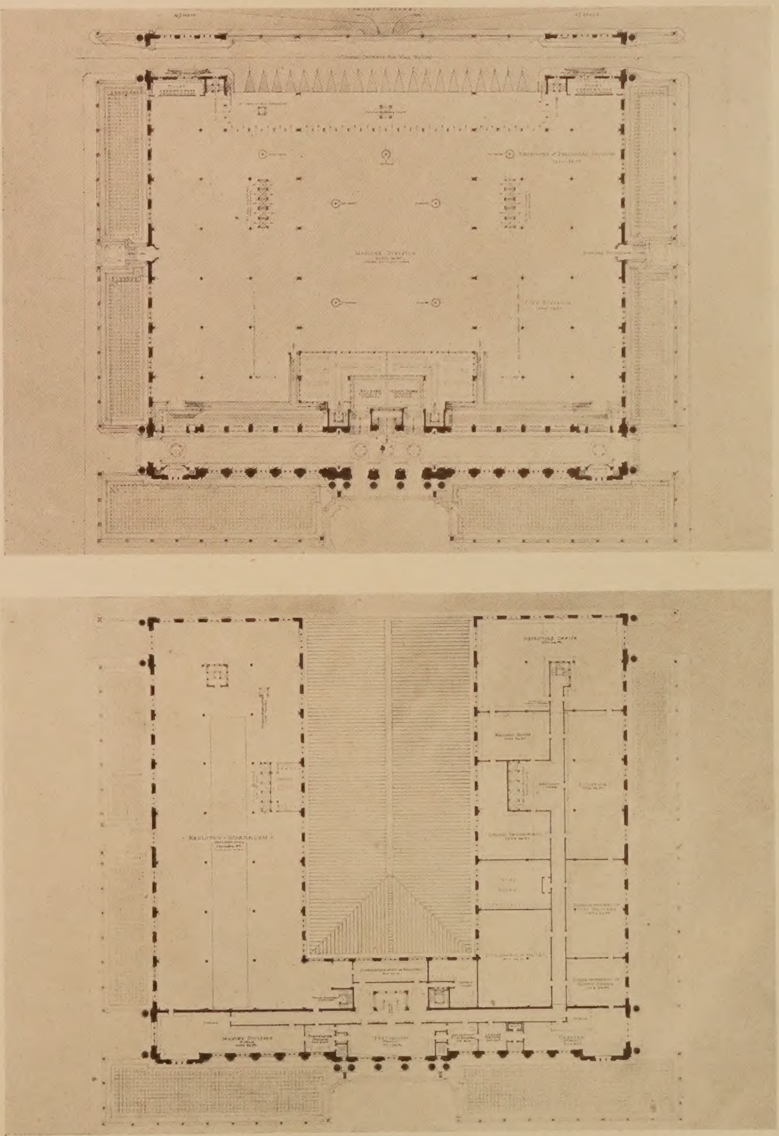


COMPETITIVE DESIGN, U. S. POST OFFICE, NEW YORK. Whitfield & King, Architects.

(Continued from page 81)

of the necessary and essential physical features of the building. Good decorative art is not only compatible with an efficient physical result, but can be considered of the highest order only when it conforms to good mechanics—in fact, decorative art rests upon a purely scientific basis.

A careful analysis of the respective provinces of the illuminating engineer and the architect, therefore, discloses no more ground for mutual agreement and distrust than between the architect and any other engineering specialist. The passive or active antipathy which has thus far existed to a greater or less extent on the part of the architect toward illuminating engineering appears to be wholly unjustifiable; and it may be worth while to seek the reasons for this apparently groundless opposition. The most obvious cause of this feeling has thus far been to a large extent a reformer; in fact, the very existence of his profession may be directly traced to the prevalence of bad practice in the use of light. The faults of illuminating installations as designed under past conditions at last became so numerous and so obvious that there arose a demand for reform. It was hardly to be expected that those who had perpetrated the outrages would themselves turn about and reform their own works. The reform had to be through the agency of independent individuals who made a particular study of the special conditions needing the reform. It is also to be expected that those responsible for malpractice will defend themselves and their works with all energy, until they are convinced of the futility of such a course. The work of the illuminating engineer thus far has, therefore, been necessarily directed to a large extent toward pointing out the faults of the prevailing practice. Such a course is by no means the most agreeable of tasks, but it is necessary preliminary to better work in the future; and the illuminating engineer must not shrink from this task until the absolute soundness of his contention has been universally recognized.



PLANS, U. S. POST OFFICE, NEW YORK.

Whitfield & King, Architects.

In most cases the sins of the architect have been rather of omission than commission. With the increasing demands upon his attention from the growing complexity of building, he has given less and less attention to details and seemingly the least attention of all to the extremely important matter of artificial illumination. Lighting systems have been put in either without the slightest regard to the scientific principles involved, or at best with the aid of a few rule-of-thumb formulas which were as apt to produce faults as anything else. Only the greater ignorance of the client has prevented an earlier upheaval. Were proportionately serious mistakes made in other points of construction, there is scarcely one building out of ten that would be accepted by the owner when completed. What would one say, for example, on learning that the heating apparatus in his building was wasting 25 per cent. or even 50 per cent. of the fuel? And yet such losses in light are by no means uncommon.

Perhaps from a natural inclination to avoid details, the architect has very frequently delegated his duties to the fixture manufacturer, with the result always to be expected when the blind leads the blind—namely, that they have both fallen. The sins of omission committed by the architect were even surpassed by the sins of commission committed by the fixture maker. Where the architect specified a number of light-sources, figuring in a vague way on the illumination which they would produce if unobstructed, the fixture manufacturer has perhaps reduced the illumination to one-half by the accessories and construction used. It is quite to be expected, therefore, that the fixture manufacturer should not welcome the illuminating engineer with open arms. It is bad enough to have one's faults baldly pointed out; but when such faults have been an important source of revenue, the sting is so much the keener. There is no denying the fact that a very considerable part of the faults of lighting fixtures are directly traceable to a desire for profit.

Recently a lighting installation in a public building caused a political scandal, owing primarily to the discovery of the fact that the fixtures had been sold to the State by the pound; or more properly speaking, by the ton. But it was rather the fact that the interested parties had overreached themselves, than in the method of computing values, that constituted the novelty of the crime. As a matter of actual fact, there are any number of cases in which the real or apparent weight is the actual basis of value

The architect has had the reins from the beginning of history to the present time, and must be held wholly responsible for the results. If these are faulty, there need be no hedging on nice distinctions as to exactly whose duty it may be to institute the reform. The reformer is justified by his works.

The principal point in dispute thus far between the illuminating engineer and the architect seems to be a question of jurisdiction. The architect has been comparatively ready to admit the authority of the illuminating engineer in regard to the purely physical and economical aspects of the question, but has denied his authority in matters pertaining to the aesthetic or decorative features involved. The engineer, on the other hand, has contended that under this ruling the architect can practically overthrow the results of his labor by setting up the claim of æsthetic requirements. On the general principle that "he who seeks equity must come with clean hands," the illuminating engineer is disposed to hold up the examples of architectural aberrations, which are so conspicuously numerous as an answer to the implied charge that he is incompetent to form a correct judgment in matters of art. So long as such architectural monstrosities as the New York Custom House, for example, continue to obtrude themselves on a helpless public, illuminating engineers will not be disposed to yield too readily to assumptions of artistic superiority on the part of architects.

Since illuminating engineering involves questions of decorative art there is no reason why the illuminating engineer should not make a sufficient study of this side of his profession to become an adept. The principles of art as applied to architecture are within the grasp of any intelligent person having a reasonable amount of native appreciation, and there is no more reason why the illuminating engineer should not master these principles, at least so far as they affect his profession, than there is for the architect not acquiring the general principles of structural engineering.

The fact that the former prevailing practice in lighting had numerous and grievous faults is becoming pretty generally known, and as a direct result of this knowledge a demand for better methods is making itself felt.

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